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PTP8 Slave Network Time Client

The PTP8 Network Time Client provides network operators and equipment manufacturers with a packet – based timing and synchronization solution.

Features

- Standalone IEEE1588v2 PTP Client
- Precision timing circuits ensure stability
In event of synchronization signal interruption.
- Integrated Web Server
- LED System Status
- Multiple Outputs and customer specified options
Also available
- Time of day (TOD) is provided for support
Of legacy equipment using IRIG B, RS232, RS422
And RS 485.
- OEM Board design also available providing
Equipment Manufacturers with a fast track PTP
Implementation.



The PTP8 Slave Network Time Client converts the IEEE 1588v2 protocol supplied across a packet network to traditional E1/T1, 1PPS, 10MHz, IRIG B, Serial TOD and customer requested timing signals.

The PTP8 Slave Network Time Client provides a rapid upgrade of existing network infrastructure to packet based timing and synchronization enabling operators to lower upgrade costs when migrating from a TDM to Ethernet backhaul.

Typical Applications Include:

- Telecommunications
 - LTE
 - Ethernet/ IP Backhaul (Synchronization of Base Stations)
- WiMAX
- Broadcasting (Synchronization of DVB/ DAB Transmitters)
- Power Utilities (Applications requiring Time of Day)
- Applications requiring Precise Timing delivered over a Packet Network

System Benefits:

- Seamless Upgrade to PTP IEEE 1588v2
- Complete End to End PTP Solution with PTP80 Grandmaster Clock
- Accelerates PTP Client Deployments
- Time Outputs (1PPS, TOD)
- Unicast/ Multicast Operations
- Correlation of 10MHz and 1PPS

Platforms:

The PTP8 Slave is also available as an OEM board-level product and as a 19" rack-mountable unit shown below.



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Specifications

Module Connections

The unit provides two standard RJ45 connections to a 100BASE-T network one for configuration, firmware uploads and providing NTP (Network Time Protocol) and the other for PTP connection to the master or Grandmaster PTP clock. A 9 way D type socket is also available for RS232 connection for configuration, status and firmware upload purposes (115.2kbaud, no parity, 8 bit characters and 1 stop bit). 1PPS and 10MHz outputs are provided via two BNC 50O sockets. E1 or T1 output via 75O BNC

GENERAL

Internal oscillator: OCXO
Network timing client: PTP (IEEE1588v2)
Communications : RS-232 (RJ45)
Ethernet 10/100Base-T (RJ45)
Unicast / Multicast Operation
ITU-T G.8261 compliant

PTP8 INPUTS

PTP: IEEE 1588v2
Connector: RJ45 10/100Base-T

PTP8 OUTPUTS

Number of system outputs: 5
E1/T1
Number of T1/E1 outputs: 1
Transmit bit rate: 2.048 Mbps (G.703)
Line encoding: HDB3
Framing: G.704 without CRC4, G.704 with CRC4 with or without SSM support
Connector: BNC 75 ohm Unbalanced
RJ48, 120 ohm (option or use balun)
T1 option available
Frequency Output
Number of 10MHz outputs: 1
10MHz sinusoidal phase aligned +/- 100ns of 1PPS output
1Vrms into a 50 ohm load
Connector: BNC 50 ohm
1PPS Output
Number of 1PPS outputs: 1
-2.5Vpp +/- 0.1Vpp into a 50ohm load
IRIG-B Output
DC-Level Shifted IRIG-B
DC Timecode / Time Pulse output 2.5vpp +/- 0.1Vpp into a 50 ohm load
Connector: BNC socket grounded 50 ohm

Serial Message RS232

NMEA GPRMC message format.
9600 baud, 1 stop bit and no parity

Customer Special Requests / Options

Available to factory order

FREQUENCY / TIMING ACCURACY

Frequency/timing accuracy
Frequency: Better than 10ppb possible (Network Dependent)
Timing: Better than 100ns possible (Network Dependent)
Holdover accuracy based on standard OCXO
Holdover Frequency $1 \cdot 10^{-9}$ per °C
Time Holdover 60µs for first day at 25°C

Oscillator Options

Please consult factory with requirement, options include
ITU-T G.812 / 813

socket
and
RJ45
connect
ion.

PHYSICAL

H 34mm W 170mm D 142mm
Weight 600g
Options – 19" Rack Mounting
OEM Board Designed to Customer's Specification

POWER

DC -48V Dual Input (-40 to -72V Range)
AC Adaptor Available

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature: -5°C to +60°C (please contact factory for advice outside this range)
Storage Temperature: -5°C to +60°C
Humidity: up to 95% RH (non-condensing)

MANAGEMENT

LED: 3 status LEDs on front panel
Local management: RS-232, RJ-45 port
Remote management: HTML, RJ-45 port (Web Browser)
SNMPv1 (RFC 1157)
SNMPv3 (RFC 2271) next release
TL1 (GR-831-CORE)

NMS: Time & Frequency NMS
OSS Integration
System Administrator Password Protection

COMPLIANCE

CE
RoHS
Consult factory with requirement for your country / application

EMISSIONS / IMMUNITY

EN6100
Consult factory with requirement for your country / application

PROTOCOLS

ANSI T1.101
GR-1244
HTTP (RFC 2616)
IPv4
ITU G.812, G.813, G.823, G.824, G.703, G.704
PTPv2 (IEEE 1588)
SNMP v1 (RFC 1157)
SNMP v3 (RFC 2271)
TL1 (GR-831-CORE)
Telnet (RFC 854)
TFTP (RFC 1350) FTP (RFC 959)
IEEE 802.3